

## DETAILED ACTION

### ***Response to Amendment***

The affidavit under 37 CFR 1.132 filed February 29, 2008 is sufficient to overcome the rejection of claims 1-4, 7, and 8 based upon Kato et al. under 35 U.S.C 102(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (WO 99/11709) in view of Scardino et al. (US 2002/0032302).

Considering Claims 1 and 2: Kato et al. teaches a polytrimethylene terephthalate (1:5-14) resin with an intrinsic viscosity of up to 0.8 dl/g (10:34-37) with a specific example of 0.7 dL/g (Example 2); a cyclic dimer content of less than 2% by weight (abstract) with an example of 1.7% (Example 2) and a b value of 6.2 (Example 2).

Kato et al. also teaches a method for producing a polytrimethylene terephthalate comprising providing a molten trimethylene terephthalate resin that is made of 100% trimethylene terephthalate units (8:55-9:6) with a viscosity of up to 0.80 dL/g (10:34-37) with a specific example of 0.70 dL/g (example 2); and processing the resin at reduced pressure of less than 0.5 torr/0.06 kPa in the melt phase (8:55-9:6). Kato et al. also teaches the resin as being made with a titanium catalyst (9:24-31) in the presence of a phosphate (6:11-30). As disclosed in the original specification (page 121) this will produce a resin with the desired E value of less than 0.033.

Kato et al. does not teach the devolatilization as occurring during the melt phase. However, Scardino et al. teaches the removing cyclic dimers from the melt polycondensation phase at reduced pressure (§0012). Kato et al. and Scardino et al. are combinable as they are concerned with a similar technical difficulty, namely removing cyclic dimers from a polytrimethylene terephthalate resin. It would have been obvious to a person having ordinary skill in the art at the time of invention to have removed the dimer in the melt phase as in Scardino et al. in the process of Kato et al., and the motivation to do so would have been to eliminate the need for an extra solid phase devolatilization step, thus reducing process time and cost.

The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients and the same process as disclosed in instant claims. Therefore, the claimed effects and physical properties, i.e. the molecular weight distribution, L value, and crystallinity would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (WO 99/11709) in view of Scardino et al. (US 2002/0032302).

Considering Claims 3, 4, 6, and 7: Kato et al. teaches a method for producing a polytrimethylene terephthalate comprising providing a molten trimethylene terephthalate resin that is made of 100% trimethylene terephthalate units (8:55-9:6) with a viscosity of up to 0.80 dL/g (10:34-37) with a specific example of 0.70 dL/g (example 2); and processing the resin at reduced pressure of less than 0.5 torr/0.06 kPa in the melt phase (8:55-9:6). Kato et al. also teaches the resin as being made with a tinatium catalyst (9:24-31) in the presence of a phosphate (6:11-30). As disclosed in the original specification (page 121) this will produce a resin with the desired E value of less than 0.033.

Kato et al. does not teach the devolatilization as occurring during the melt phase. However, Scardino et al. teaches the removing cyclic dimers from the melt polycondensation phase at reduced pressure (§0012). Kato et al. and Scardino et al. are combinable as they are concerned with a similar technical difficulty, namely removing cyclic dimers from a polytrimethylene terephthalate resin. It would have been obvious to a person having ordinary skill in the art at the time of invention to have removed the dimer in the melt phase as in Scardino et al. in the process of Kato et al., and the motivation to do so would have been to eliminate the need for an extra solid phase devolatilization step, thus reducing process time and cost.

The claim is directed to a process. Therefore the claim is interpreted by the steps preformed not necessarily the apparatus used to perform the step. Therefore the above combination is considered to teach the claimed limitations as it provides a step of removing the dimer through evaporation as claimed even though it is silent as to the apparatus used. Considering Claim 5: Kato et al. does not teach the process as being continuous.

However, Scardino et al. teaches making the resin with a continuous process (§0014). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the continuous process of Scardino et al. in the process of Kato et al., and the motivation to do so would have been to increase the efficiency of the process. See MPEP 2144.04 (V).

The claim is directed to a process. Therefore the claim is interpreted by the steps preformed not necessarily the apparatus used to perform the step. Therefore the above combination is considered to teach the claimed limitations as it provides a step of

continuously performing the polycondensation and separation as claimed even though it is silent as to the apparatus used.

Considering Claim 8: Kato et al. teaches a tin catalyst as being used in the prior art (2:33-36). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the tin catalyst of the prior art in the process of Kato et al., and the motivation to do so would have been, as Kato et al. suggests, the polymerization rate is higher when using tin catalysts than titanium catalysts (2:36-39).

### ***Double Patenting***

Claims 1-8 directed to an invention not patentably distinct from claims 1 and 9 of commonly assigned US Patent 7,198,846. Specifically, see rejection below.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 9 of U.S. Patent No. 7,198,846 in view of Kato et al. (WO 99/11709) and Scardino et al. (US 2002/0032302).

Considering Claims 3-8: Claim 9 of US Patent '846 teaches providing a moleten trimethylene terephthlate resin with an intrinsic viscosity of from 0.2 to 2 dL/g and polymerizing the resin in the melt phase under reduced pressure (Claim 8) by continuously feeding the crude resin to a polymerization reaction zone (Claim 9) using the guide wetting fall process at a temperature higher than the crystalline melting point but lower than 290 °C so that polymerization is affected during the fall (Claim 8).

Claim 9 of US Patent '846 does not teach the claimed E value. However, Kato et al. teaches a trimethylene terephthlate resin as being made with a tinatium catalyst (9:24-31) in the presence of a phosphate (6:11-30). As disclosed in the original specification (page 121) this will produce a resin with the desired E value of less than 0.033. Claim 9 of US Patent '846 and Kato et al. are combinable as they are concerned with the same field of endeavor, namely the production of trimethylene terephthlate resins. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the catalysts of Kato et al. in the process of Claim 9 of US Patent '846, and the motivation to do so would have been, as Kato et al. suggests, to increase the whiteness and melt stability of the resin (4:10-20).

Claim 9 of US Patent '846 does not teach the devolatilization as occurring during the melt phase. However, Scardino et al. teaches the removing cyclic dimers from the melt polycondensation phase at reduced pressure (¶0012). Claim 9 of US Patent '846 and Scardino et al. are combinable as they are concerned with a similar technical difficulty, namely removing cyclic dimers from a polytrimethylene terephthlate resin. It would have been obvious to a person having ordinary skill in the art at the time of invention to have removed the dimer in the melt phase as in Scardino et al. in the process of Claim 9 of US

Patent '846, and the motivation to do so would have been to eliminate the need for an extra solid phase devolatilization step, thus reducing process time and cost.

The claim is directed to a process. Therefore the claim is interpreted by the steps preformed not necessarily the apparatus used to perform the step. Therefore the above combination is considered to teach the claimed limitations as it provides a step of removing the dimer through evaporation as claimed even though it is silent as to the apparatus used. Considering Claims 1 and 2: Claim 9 of US Patent '846, Kato et al., and Scardino et al. collectively teach the process of making the resin of claims 1 and 2. Since US Patent '846 teaches a resin made by this process in claim 1, the resin of claim 1 of US Patent '846 would implicitly have the properties claimed in the instant claims 1 and 2.

### ***Response to Arguments***

Applicant's arguments, see pages 33-39, filed February 29, 2008, with respect to the rejection of claims 3 and 4 under U.S.C. 112 have been fully considered and are persuasive. The rejection of claims 3 and 4 has been withdrawn.

Applicant's arguments, see pages 39-49, filed February 29, 2008, with respect to the rejection(s) of claim(s) 1-8 under U.S.C. 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kato et al. (WO 99/11709) in view of Scardino et al. (US 2002/0032302).

Applicant's arguments filed February 29, 2008 have been fully considered but they are not persuasive, because:

A) Applicants argument that Kato et al. does not teach the claimed E value is not persuasive. As discussed above Kato et al. also teaches the resin as being made with a titanium catalyst (9:24-31) in the presence of a phosphate (6:11-30). As disclosed in the original specification (page 121) this will produce a resin with the desired E value of less than 0.033.

B) Applicants argument that the solid phase polymerization is required step of Kato et al. is not persuasive. Kato et al. teaches several examples without the use of a solid phase polymerization (examples 1-7) versus only one with a solid phase polymerization step (Example 8). Therefore a person having ordinary skill in the art at the time of invention would not consider this to be a necessary step in the production of the invention.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH

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/James J. Seidleck/

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